The curse of sovereign debt and implications for fiscal policy

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Chapter 5

Summary

As evidenced by the recent crisis in Europe, very high levels of sovereign debt can lead to concerns about the government's ability to meet its debt obligations. In this thesis, I have discussed and examined how such concerns affect the sustainability, effectiveness and optimal design of fiscal policy.

In Chapter 2, I used a theoretical model to study the sustainability of countercyclical fiscal policies.[1] Under countercyclical policies, taxes are reduced (or government expenditures raised) during recessions, whereas taxes are raised during episodes of economic prosperity. Because tax cuts stimulate consumption, countercyclical fiscal policy usually tends to contribute to macroeconomic stability. The key assumption of this model is that the government's cost of borrowing is affected by a *sovereign risk premium*. The sovereign risk premium forms a wedge between the 'risk-free' interest rate and the interest rate that the government must pay on its outstanding debt. When concerns of fiscal insolvency loom large, further increases in government indebtedness push up the sovereign risk premium.[2] In the model, I also assumed that the sovereign risk premium affects the real interest rate which determines the optimal split between household consumption and savings. This link between sovereign risk

[1] Fiscal policy is said to be *sustainable* if the government can keep up with the periodic interest payment on outstanding debt, such that debt converges to a sustainable long-run level. The risk that the government is unable to meet its debt obligations is referred to as *sovereign risk*.

[2] This positive relationship between sovereign debt and the sovereign risk premium was clearly present during the sovereign debt crisis in Europe, as countries with relatively large levels of sovereign debt had to pay a higher sovereign risk premium (like Greece and Portugal) than countries with relatively low levels of sovereign debt (like Germany and the Netherlands).

and the private sector is motivated by the observation that many financial intermediaries hold government bonds as collateral to tap wholesale funding. When there is an increase in sovereign risk, the collateral value of these bonds falls which pushes up the funding costs of financial intermediaries. In turn, the higher funding costs might be passed on to the rest of the private sector in the form of higher interest rates on household and firm loans, thereby depressing aggregate private expenditures.

I showed that, in the presence of a sovereign risk premium, countercyclical policies might not be sustainable. Intuitively, when a countercyclical tax cuts raises the stock of government debt and results in a higher sovereign risk premium, the interest rate faced by the private sector goes up which crowds out consumption by households. The fall in consumption induces a further countercyclical tax reduction, a further increase in government debt and the sovereign risk premium, and an even stronger crowding out of consumption. This vicious cycle is clearly not feasible, as it implies an explosive path for government debt.

In order to avoid or break the vicious cycle, the government needs to adopt a more-than-usual aggressive debt consolidation policy in order to keep the sovereign risk premium low and minimise the crowding-out effects on consumption. If the government is unable or unwilling to reduce the stock of debt, then it is up to the central bank to keep the interest rate low. The results from Chapter 2 therefore indicate that, in times of high and sensitive sovereign risk premia, the sustainability of fiscal policy and macroeconomic stability depend strongly on the cyclical stance of fiscal policy and the coordination between the government and central bank.

In Chapter 3, I studied the *government spending multiplier*, i.e. the percentage change in output due to a change in government spending. Using a modified version of the model from the previous chapter, which now describes a small open economy, I showed that the multiplier can be larger under flexible than fixed exchange rates when a country faces sovereign default risk. This result goes against traditional Keynesian theory. As in Chapter 2, sovereign risk generates a crowding-out effect on household consumption that works through the interest rate. This crowding-out effect lowers the multiplier under both flexible and fixed exchange rates. However, an increase in sovereign risk also leads to a depreciation of the exchange rate, which benefits the export-

ing industry and therefore raises the multiplier. Of course, the latter occurs only when the exchange rate is allowed to float, which implies that the multiplier could be larger under flexible, rather than fixed, exchange rates. In fact, the multiplier can even be negative when crowding-out effects are particularly severe and the exchange rate is unable to depreciate.

The results from Chapter 3 suggest that the ability of the government to stimulate aggregate demand is limited by the degree of government indebtedness. When sovereign debt has reached an unsustainable level and drives up the interest rate, the power to rejuvenate the economy through increases in government spending is considerably weakened. The model showed that countries with fixed exchange rates suffer from this sovereign debt curse the most, since the adverse effects of sovereign default risk cannot be absorbed by adjustments in the exchange rate. In that case, economic recovery must stem from adjustments in prices and wages, yet these are often very rigid in the short term.

In Chapter 4, I expanded the analysis from the preceding chapter and examined the multiplier under monetary union. The model I used describes a monetary union that consists of two countries. Fiscal policy is conducted nationally and independently between countries, and the two countries may differ in size and face different shocks, yet are otherwise symmetric. Just like under a fixed exchange rate regime, the nominal exchange rate between members of a monetary union is held fixed. Therefore, as in Chapter 3, the multiplier tends to be lower during episodes of sovereign risk due to the crowding-out effect on consumption and the absence of an offsetting exchange rate depreciation. Furthermore, I showed that the multiplier is lower, the weaker is the ability of the central bank to reduce interest rates. This result stands in contrast to the recent literature on fiscal multipliers, in which multipliers are often found to be larger when interest rates are rigid. Instead, when accounting for sovereign risk, I showed that the multiplier can turn negative when interest rates are completely fixed.

I also investigated which fiscal policy stance maximises welfare, i.e. *optimal fiscal policy*. In particular, I compared welfare outcomes under both counter- and pro-cyclical fiscal policies and showed that, in 'normal times' without sovereign risk, welfare is maximised when fiscal policy is countercyclical. By offsetting movements in output, countercyclical fiscal policies reduce income

variability which improves welfare. This result, however, only applies to countries that are relatively small. If a country is large, and thus have a strong influence on the rest of the monetary union, output fluctuations would be smoothed also through countercyclical monetary policy, which means that tax reductions during recessions stimulate the economy by 'too much'. Therefore, for larger countries, a pro-cyclical fiscal stance maximises welfare.

This result is reversed in times of sovereign risk: small countries benefit most from pro-cyclical fiscal policies, whereas large countries benefit most from countercyclical fiscal policies. In small countries, a pro-cyclical fiscal stance is required to suppress the sovereign risk premium and thereby mitigate the crowding-out effects on consumption. In large countries, a countercyclical stance provides a better balance between fiscal and monetary policy. The results from Chapter 4 therefore suggest that the optimal design of fiscal policy under monetary union depends strongly on both the size of a country's stock of public debt and the relative size of a country's economy.